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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,687	03/21/2002	Brian R. Odgers	36-1531	4659

			EXAMINER
23117	7590	07/10/2006	KRISCIUNAS, LINDA MARY

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ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _21 March 2002_.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-19_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-3,11-13 and 15-19_ is/are rejected.

7) ☒ Claim(s) _4-10 and 14_ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _21 March 2002_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _July 18, 2002_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   The following is a Non-Final Office Action in response to the applicant's

submission filed March 21, 2002. Claims 1-19 are pending.

Claim Objections

2.   Claims 4-10 and 14 are objected to under 37 CFR 1.75(c) as being in improper

form because a multiple dependent claim cannot depend from any other multiple

dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been

further treated on the merits.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The limitation that "at least one of" comprises a "plurality of

said resources" is unclear since "at least one of" can mean one, but a "plurality" is more

than one.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1-3, 11-13, 15-17 and 19 are rejected under 35 U.S.C. 102(b) as being

anticipated by Du et al (US 5,826,239).

As per claims 1, 11, 15 and 19, Du teaches storing constraint definition data

defining constraints on said allocation of resources (column 9, lines43-45 where HP

OpenPM evaluates the rules and performs the rule actions when the rule conditions are

met, whereby the rule conditions constitute the constraints of the resource allocation

system.); storing an initial data representation of resource availability (column 4, lines

27-28 where the system checks a central site for availability of resource groups,

whereby the central site constitutes a storage of initial data); receiving from a resource

interface, availability data concerning availability of a resource (column 8, lines 35-38,

where the work nodes include resource allocation which constitutes the receipt of

available resources as further indicated in Figure 2, where the resource managers (28)

resolve resource assignment requests); generating a proposed data representation of

resource availability, based on the initial data representation together with said

availability data (column 13, lines 6-8, where resource status or availability is provided);

determining whether said proposed data representation is compatible with said

constraint definition data (column 4, lines 57-67 and column 5, line 1, where the system

determines the resource availability with respect to the specified activity and forwards

the information to the second computer to assign the resource to the activity.); in the

case the data is compatible with the constraint definition data, substituting the proposed

data representation for the initial data representation to generate a new initial data representation (column 4, lines 57-67 and column 5, lines 1-5, where the LRM system assigns the available resources and updates the data in the second computer accordingly.); and in the case the data is not compatible with the constraint definition data, transmitting a rejection signal to at least one resource interface (column 3, lines 34-38 where the tasks are queued when they do not meet the constraints or resource requirements. This is equivalent to sending a reject signal as it performs an identical function in substantially the same manner with substantially the same results. The main purpose of sending the reject signal is to alert the user that resources were not assigned to the task and the purpose for the queue system is the same. Resources were not available to be assigned to the task, but the task is posted in a queue to obtain resources when they become available.).

As per claims 2 and 12, they recite the same limitations as claim 1 except for the following: Du teaches receiving from one resource interface further availability data concerning availability of a resource, generating a further proposed data representation of resource availability, based on the initial data representation together with said further availability data (column 4, lines 57-67 and column 5, lines 1-5, where the LRM system assigns the available resources and updates the data in the second computer accordingly. The updated information would function as further availability data since the computer updates the resources and activities with respect to availability information as the information changes.).

As per claims 3 and 13, recites the same limitations as claim 1 and is therefore subject to the same art rejection. Du teaches multiple resource interfaces in Figure 1 where there are multiple users and machines.

As per claim 16, Du teaches the signal input is also for receiving a management signal input from at least one management interface, one or more of said management signals comprising constraint data with respect to at least one resource, and the apparatus further comprises means for using constraint data received from a management interface to enter or change data in the constraint definition data store (column 19, lines 60-67 where OpenPM contains a rule node which contains a list of condition-action rules or constraints and as indicated in Figure 4 there is a database manager (64) that interacts with the OpenPM database which contains the constraint definition data. In addition, column 9, lines 30-34 teach that the system can interact with external environments.), and means to categorize data in the constraint definition data store according to source type (column 17, lines 40-43 where each resource group has an ID associated with it that acts as a means of sorting or categorizing the constraint information), the apparatus being further adapted, on review of the content of the constraint definition data store, to resolve any conflict in constraint data relevant to a task acceptance signal according to its source type (column 10, lines 48-56 where the resource managers (28) are used to resolve any conflicts between the constraints and the resources so that the resources can be assigned.).

As per claim 17, Du teaches the constraint definition data store is categorized by location in the store. (As noted in Figure 1, the system contains databases. It is well

known that databases store information in files where each file would have a unique

"address" or location in the database.)

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al

(US 5,826,239).

As per claim 18, Du teaches the source of data in the third category being

requirements of an operational support system for use in performing allocated task(s)

(column 11, lines 37-50 where the service management layer (102) functions as a

support system for performing the tasks) and the apparatus is further adapted to store

at least a third category of data in the constraint definition data store (column 9, lines

41-44 where the system evaluates the rules or constraints and performs the rule actions

when the rule conditions are met. Whereby "rules" indicates more than one rule.) Official

notice is taken that it is old and well known that "rules" may indicate three or more.

Therefore it would have been obvious to one of ordinary skill in the art to modify the

system of Du with three (or more) rules to provide means for allowing more constraints

and consequently, more accurate resource allocation results.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. The following art also teaches resource allocation: Du et al (US

6,041,306), Du et al (US 6,078,982), Du (US 6,052,684), Du et al (US 6,041,306), Davis

et al (US 6,014,673), Davis et al (US 5,937,388), Davis et al (US 5,870,545), Lesaint et

al (US 6,578,005), Lee et al (US 6,263,358), Sisley et al (US 5,943,652), Sisley et al

(US 5,467,268), Fields et al (US 5,111,391), Walker et al (US 5,963,911), Ye (US

6,374,227), Homsi (US 7,065,493), Tanaka (US 5,353,229), Purohit et al (WO

99/17194), "Business process flow management and its application in the

Telecommunications Management Network-HP's OpenPM middleware technology" by

Shan, Hewlett-Packard Journal, October 1996; "A Petri Net based deadlock prevention

policy for flexible manufacturing systems" by Ezpeleta et al, IEEE, 1995; "Matchmaking:

an extensible framework for distributed resource management" by Raman et al, Baltzer

Science Publishers, Cluster Computing, 1999; "Polynomial-complexity deadlock

avoidance policies for sequential resource allocation systems" by Reveliotis et al, IEEE,

1997; "Practical Applications of Constraint Programming" by Wallace, Constraints, An

International Journal, 1996; "Constraint Satisfaction in Discrete Optimization" by Tsang

et al, UNICOM Seminar, March 1998; "WorkWeb System--multi-workflow management

with a multi-agent system", by Tarumi et al, ACM SIGGROUP, 1997; "A holonic

approach for task scheduling in manufacturing systems" by Ramos, IEEE, 1996; "An

agent-based flexible routing manufacturing control simulation system" by Lin et al,

Winter Simulation Conference, 1994; "Resource management in large distributed

systems" by Goscinski et al, white paper, October 1990; "Practical modeling for

resource management" by Bender et al, Harvard Business Review, March/April 1981;

"HP Workflow research" past, present, future" by Shan et al, North Atlantic Treaty

Organization-Advanced Study Institute Workshop, 1997; "Recent trends in workflow

management products, standards and research" by Mohan, IBM Almaden Research

Center white paper, 1997; "An Overview of Workflow management" from process

modeling to workflow automation infrastructure" by Georgakopoulos et al, Distributed

and Parallel Databases, 1995; and "HP Process Manager Process Design Guide", HP

Process Manager, 1998.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Linda Krisciunas whose telephone number is 571-272-

6931. The examiner can normally be reached on Monday through Friday, 6:30 am to

3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

   Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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LMK